

REMARKS

The Response is being filed in connection with a Request for Continued Examination for the above-referenced patent application and in response to the Office Action having a mailing date of October 18, 2005.

Claims 1-14 are under examination, and Claims 15-43 have been withdrawn as non-elected subject matter.

1. Rejection Under 35 U.S.C. §112, Second Paragraph.

Applicants note with appreciation that the rejection under 35 USC 112, second paragraph has been withdrawn.

2. Rejection of Claims Under 35 U.S.C. §103(a).

The Examiner has made three rejections under 35 U.S.C. §103(a) as follows: (1) rejection of Claims 1-3 and 6 over Radin et al. in view of Lemons, Day et al. (US 6,358,531) and/or Inoue et al. (US 4,798,585); Claims 1-6 over Radin et al. in view of Lemons, and further in view of Day et al. (US 6,358,531) and/or Inoue et al. (US 4,798,585); and Claims 1-3 and 7-14 over Radin et al. in view of Lemons, Day et al. (US 6,358,531) and/or Inoue et al. (US 4,798,585) and further in view of Gerhart. To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), the Examiner must show that (1) the references teach all the elements of the claimed invention, (2) the references contain some teaching, suggestion or motivation to combine the references, and (3) the references suggest a reasonable expectation of success. In this rejection, the combination of references fails to teach all of the elements of the claimed invention, namely, a hollow sintered calcium-containing microstructure.

The Examiner notes that Radin et al. does not teach compositions wherein the calcium phosphate is sintered. The Examiner then refers to Lemons, Day and/or Inoue for purposes of showing sintered materials in each of the three rejections.

In the Office Action dated 3/31/05, the Examiner rejected claims 1-6 over Radin et al. in view of Lemons. This rejection has now been withdrawn. In response to the rejection, Applicants argued that neither Radin et al. nor Lemons disclose or suggest, alone or in combination, the present invention. Specifically, Radin et al. do not disclose a hollow sintered

calcium-containing microstructure. Further, the citation of Lemons does not make up this deficiency. While Lemons discloses a composition for treatment of bone lesions that includes both particulate hydroxylapatite and particulate tricalcium phosphate ceramic, Lemons does not disclose hollow microstructures. While Lemons does refer to "microporous" materials, such materials are not hollow. A hollow structure, on the other hand, includes a significant void in its interior that is defined by an outer coating of material.

The Examiner cites Day as disclosing "porous, hollow calcium shells that can be sintered (col. 6 line 15-30)." In this passage, however, Day only discloses sintering in the specific context of "[p]orous/hollow shells produced by the novel method of the invention and composed of refractory oxides, such as aluminum oxide (Al_2O_3), could be sintered to form high purity, high temperature insulation." The subsequent passage referencing "[p]orous/hollow shells containing calcium and phosphorous" does not reference sintering.

With respect to Inoue, the Inoue reference is not relevant to the pending claims because the reference teaches a non-spherical device (i.e. a cuff) that at least partially encloses a "medically operative part" as stated in claim 1 of Inoue. Other than the fact that the same calcium phosphate chemical constituents can be used, there is no teaching by Inoue et al. of hollow microbeads or devices derived from hollow microstructures as presently claimed. Applicants accordingly submit there is no motivation to combine Inoue with Radin.

The Examiner further argues that "[m]oreover, at the time of the claimed invention, one of ordinary skill in the art would have been motivated by routine practice and the cited references to sinter the hollow calcium structures of Radin with a reasonable expectation for successfully obtaining the hollow calcium shell of Radin." Applicants submit that neither Radin et al., alone or in combination with Lemons, Day and/or Inoue, discloses hollow sintered calcium-containing microstructures as claimed and that it is not routine practice to form such structures.

3. Obviousness-Type Double Patenting Rejections

Applicants note with appreciation that the rejection based on obviousness-type double patenting has been withdrawn.

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Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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